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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,238	01/23/2004	Luc Nougier	PET-2115	4516
23599 7590 11/21/2007 MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			EXAMINER HANDAL, KAITY V	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 11/21/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<p align="center">Office Action Summary</p>	Application No. 10/762,238	Applicant(s) NOUGIER ET AL.	
	Examiner Kaity Handal	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5, 17 and 20 is/are rejected.
- 7) ☒ Claim(s) 6 and 18-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/23/2004</u> | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) <input type="checkbox"/> Notice of Informal Patent Application
6) <input type="checkbox"/> Other: _____ |
|---|--|

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species A in the reply filed on 9/27/2007 is acknowledged.

Applicant's election of Species A (Figure 1) in the reply filed on 9/27/2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Applicant requested acknowledgement from the examiner that claims 1, 4-5 and 24 are generic to Species A-D. Examiner respectfully agrees.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show reactor-exchanger (101) as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be

removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: the baffle (13). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: Throughout the specification, the baffle was assigned reference number (13) while in the drawings, the number (13) pointed to what appeared to be the catalyst.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2, and 4-5, 17 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Fuderer (US 4,650,651).

With respect to claim 1, Fuderer teaches a partial oxidation reactor comprising: an elongated jacket (fig. 1, 30 & 31) along an axis, means (10 & 11) for supplying a preheated gas that contains oxygen and optionally water vapor, means (1) for supplying a hydrocarbon feedstock, means (22) for evacuation of a hydrogen-rich effluent, a first internal chamber (6) within said jacket (30 & 31) for carrying out an essentially isothermal partial oxidation reaction, wherein said first internal chamber (6) is connected to said means/in fluid communication with (1) for supplying hydrocarbon feedstock and to said means (10 & 11) for supplying preheated gas (as illustrated), gas turbulizing means (7) within said first internal chamber (6) that are suitable for creating a perfect mixing flow, means(illustrated) for linking said first chamber (6) to a second chamber

(5), wherein said second chamber (5) has a suitable volume suitable for carrying out a piston flow, said linking means (illustrated) comprising at least one orifice (as illustrated), and second chamber (5) indirectly exchanging heat over at least a portion of its length with said means (10 & 11) for supplying preheated gas, wherein said second chamber (5) is connected to said means (22) for evacuating hydrogen-rich effluent, wherein said means (12) for supplying preheated gas comprises an annular chamber (where the lines 10 & 11 enter the reactor as illustrated) that is essentially coaxial with said the reactor jacket (30 & 31), and said second chamber (5) is essentially coaxial with said jacket (30 & 31) (as illustrated).

With respect to claim 2, Fuderer teaches wherein said second chamber (5) comprises a first essentially adiabatic zone that is linked to linking means/orifice (illustrated) and a second zone that exchanges heat with said means (10 & 12) for supplying preheated gas the oxygen containing gas (as illustrated).

With respect to claim 4, Fuderer teaches wherein said second chamber (5) is made of a ceramic-type material/refractory (col. 7, lines 9-16) that is optionally coated on the side of the hot fluid by a porous or non-porous ceramic material.

With respect to claims 5 and 17, Fuderer teaches wherein said gas turbulizing means (7) inside said first chamber (6) is a separate injection device that is essentially in countercurrent to the feedstock, on the one hand, and the oxygen-containing gas, on the other hand (as illustrated).

With respect to claim 20, Fuderer teaches wherein said first chamber (6) has a hollow (as illustrated) internal volume in which said gas turbulizing means (7) is

positioned (as illustrated), and said first chamber (6) is thermally insulated by an adequate heat-insulated thickness/refractory (col. 7, lines 9-16) positioned along the inside walls of said first chamber (6), and said second chamber (5) comprises a first essentially adiabatic zone/(zone between 4 and 5) that is linked to linking means/orifice (illustrated) and a second zone (4) that exchanges heat with said means (raw material flowing from 10 & 11) for supplying preheated gas.

Allowable Subject Matter

7. Claim 24 is allowed.

The following is an examiner's statement of reasons for allowance: the reactor as claimed in claim 24 combined with having a second chamber positioned within said first chamber forming a passage, and wherein said second chamber comprises a first reaction chamber and a second reaction chamber and a porous structure connecting said first and second reaction chambers is missing in the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

8. Claims 6 and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the reactor as claimed in claim 1 when combined with having said means for supplying preheated gas comprise an annular chamber which surrounds first and second chambers is missing in the prior art of record.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaity Handal whose telephone number is (571) 272-8520. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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11/7/2007



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